a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising fluid column over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position;

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column; and

said monitored changing height of said rising fluid column and said single data point of said falling fluid column forming said fluid movement data.

REMARKS

Claims 105-134 appear in this application, with Claims 1-104 having been canceled to expedite the prosecution of this application.

Claims 105-134 more fully cover the scope of the present invention.

The Power of Attorney in the prior application is to Alan H. Bernstein (Registration No. 19,315); Stanley H. Cohen (Registration No. 20,235); Manny D. Pokotilow (Registration No. 22,492); Barry A. Stein (Registration No. 25,257); Martin L. Faigus (Registration No. 24,364); Eric S. Marzluf (Registration No. 27,454); Robert S. Silver (Registration No. 35,681); Scott M. Slomowitz (Registration No. 39,032); Michael J. Berkowitz (Registration No. 39,607); David M. Tener (Registration No. 37,054); James J. Kozuch (Registration No. 39,733); Frank M. Linguiti (Registration No. 32,424); Gary A. Greene (Registration No. 38,897); Marilou Watson (Registration No. 42,213) and Michael J. Cornelison (Registration No. 40,395) care of Caesar, Rivise, Bernstein, Cohen &

Pokotilow, Ltd., 12th Floor, Seven Penn Center, 1635 Market Street, Philadelphia, PA 19103-2212.

The Power appears in the original papers in the prior application, and a copy is enclosed herewith.

The prior application is assigned to Visco Technologies, Inc. in an assignment recorded on May 18, 2000 under Reel 010829/Frame 0143 (11 pages) and in an assignment recorded September 22, 2000 under Reel 011234/Frame 0447 (5 pages).

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 105-134 now appearing in this application are allowable and such favorable action is respectfully requested. The Examiner is encouraged to contact the undersigned by telephone if it is believed that further discussion may lead to an early allowance of the claims.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,
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October 9, 2001

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Version with Markings to Show Changes Made

IN THE SPECIFICATION:

On page 2, replace the paragraph beginning at line 5 with:

- -This application is a Continuation application of Co-Pending A.S.N. 09/573,267 filed on May 18, 2000 which in turn is a Continuation-in-Part of A.S.N. 09/439,795 filed on November 12, 1999, both of which are entitled DUAL RISER/SINGLE CAPILLARY VISCOMETER, which in turn is a Continuation-in-Part application of A.S.N. 08/919,906, now U.S. Patent No. 6,019,735, entitled VISCOSITY MEASURING APPARATUS AND METHOD OF USE, all of which are assigned to the same Assignee as the present invention, namely, Visco Technologies, Inc., and all of whose entire disclosures are incorporated by reference herein - -.

IN THE CLAIMS:

Please cancel Claims 1-104.

Please insert the following claims:

105. An apparatus for detecting the movement of a fluid at plural shear rates using a decreasing pressure differential, said apparatus comprising:

a fluid source elevated above a horizontal reference position;

a capillary tube having a first end and a second end, said first end being in fluid communication with the fluid source through a first riser tube;

a second riser tube having one end coupled to said second end of said capillary tube and another end being exposed to atmospheric pressure, said second riser tube being positioned at an angle greater than zero

degrees with respect to said horizontal reference position; and

a respective sensor for detecting the movement of the fluid, caused by said decreasing pressure differential, through said first and second riser tubes, respectively, at plural shear rates as the fluid moves from the fluid source, through said first riser tube, through said capillary tube and into said second riser tube, said movement of fluid comprising a laminar flow.

106. The apparatus of Claim 105 wherein one of said respective sensors monitors the laminar movement of the fluid over time in its respective riser tube and wherein the second one of said respective sensors detects a single data point of the laminar movement in its respective riser tube.

107. The apparatus of Claim 105 wherein said second riser tube is positioned vertically with respect to said horizontal reference position.

108. The apparatus of Claim 105 wherein the fluid is a non-Newtonian fluid.

109. The apparatus of Claim 107 wherein said movement of the fluid through said riser tubes comprises:

a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising column fluid over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position; and

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column.

110. The apparatus of Claim 105 wherein said capillary tube comprises capillary tube dimensions and said first and second riser tubes comprise a riser tube dimension,

said apparatus further comprising a computer, said computer being coupled to said respective sensors for receiving fluid movement data from said sensors and wherein said computer calculates the viscosity of the fluid based on said capillary tube dimensions, said riser tube dimension and said fluid movement data.

111. The apparatus of Claim 110 wherein one of said respective sensors monitors the laminar movement of the fluid over time in its respective riser tube and wherein the second one of said respective sensors detects a single data point of the laminar movement in its respective riser tube.

112. The apparatus of Claim 110 wherein said second riser tube is positioned vertically with respect to said horizontal reference position.

113. The apparatus of Claim 110 wherein the fluid is a non-Newtonian fluid.

114. The apparatus of Claim 111 wherein said movement of the fluid through said riser tubes comprises:

a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising fluid column over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position;

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column; and

said monitored changing height of said rising fluid column and said single data point of said falling fluid column forming said fluid movement data.

115. An apparatus for determining the viscosity of a non-Newtonian fluid over plural shear rates using a decreasing pressure differential, said apparatus comprising:

a non-Newtonian fluid source elevated above a horizontal reference position;

a capillary tube having a first end and a second end, said first end being coupled to the non-Newtonian fluid source through a first riser tube, said capillary tube having capillary tube dimensions;

a second riser tube having one end coupled to said first end of said capillary tube and another end being exposed to atmospheric pressure, said second riser tube being positioned at an angle greater than zero degrees with respect to said horizontal reference position, said first and second riser tubes comprising a riser tube dimension;

a respective sensor for detecting the movement of the non-Newtonian fluid, caused by said decreasing pressure differential, through said first and second riser tubes, respectively, at plural shear rates as the non-Newtonian fluid moves from the non-Newtonian fluid source, through said first riser tube, through said capillary tube and into said second riser tube in a laminar flow, said sensors generating data relating to the movement of the non-Newtonian fluid over time; and

a computer, coupled to said sensors, for calculating the viscosity of the non-Newtonian fluid based on said data relating to the movement of the non-Newtonian fluid over time, said capillary tube dimensions and said riser tube dimension.

116. The apparatus of Claim 115 wherein one of said respective sensors monitors the laminar movement of the fluid over time in its respective riser tube and wherein the second one of said respective sensors detects a single data point of the laminar movement in its respective riser tube.

117. The apparatus of Claim 115 wherein said riser tube is positioned vertically with respect to said horizontal reference position.

118. The apparatus of Claim 115 wherein said non-Newtonian fluid is the circulating blood of a living being and the non-Newtonian fluid source is the vascular system of the living being.

119. The apparatus of Claim 117 wherein said movement of the fluid through said riser tubes comprises:

a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising fluid column over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position;

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column; and

said monitored changing height of said rising fluid column and said single data point of said falling fluid column forming said fluid movement data.

120. An apparatus for detecting the movement of a fluid at plural shear rates using a decreasing pressure differential, said apparatus comprising:

a fluid source elevated above a horizontal reference position;

a first riser tube having a first end exposed to atmospheric pressure and a second end, said second end being in fluid communication with the fluid source for generating a first fluid column in said first riser tube;

a capillary tube having a first capillary tube end and a second capillary tube end, said first capillary tube end being in fluid communication with the fluid source;

a second riser tube having one end coupled to said second capillary end and another end being exposed to atmospheric pressure for generating a second fluid column in said second riser tube, said second riser tube being positioned at an angle greater than zero degrees with respect to said horizontal reference position, and wherein as second fluid column is generated in said second riser tube; and

a respective sensor for detecting the movement of the fluid in said riser tubes, caused by said decreasing pressure differential when said second end of said first riser tube and said first capillary tube end are placed into fluid communication with each other, said movement of fluid from said first riser tube, through said capillary tube and into said second riser tube at plural shear rates forming a laminar flow.

121. The apparatus of Claim 120 wherein one of said respective sensors monitors the laminar movement of the fluid over time in its respective riser tube and wherein the second one of said respective sensors detects a single data point of the laminar movement in its respective riser tube.

122. The apparatus of Claim 120 wherein said second riser tube is positioned vertically with respect to said horizontal reference position.

123. The apparatus of Claim 120 wherein the fluid is a non-Newtonian fluid.

124. The apparatus of Claim 122 wherein said movement of the fluid through said riser tubes comprises:

a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising column fluid over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position; and

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column.

125. The apparatus of Claim 120 wherein said capillary tube comprises capillary tube dimensions and said first and second riser tubes comprise a riser tube dimension, said apparatus further comprising a computer, said computer being coupled to said respective sensors for receiving fluid movement data from said sensors and wherein said computer calculates the viscosity of the fluid based on said capillary tube dimensions, said riser tube dimension and said fluid movement data.

126. The apparatus of Claim 125 wherein one of said respective sensors monitors the laminar movement of the fluid over time in its respective riser tube and wherein the second one of said respective sensors detects a single data point of the laminar movement in its respective riser tube.

127. The apparatus of Claim 125 wherein said second riser tube is positioned vertically with respect to said horizontal reference position.

128. The apparatus of Claim 125 wherein the fluid is a non-Newtonian fluid.

129. The apparatus of Claim 126 wherein said movement of the fluid through said riser tubes comprises:

a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising fluid column over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position;

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column; and

said monitored changing height of said rising fluid column and said single data point of said falling fluid column forming said fluid movement data.

130. An apparatus for determining the viscosity of a non-Newtonian fluid over plural shear rates using a decreasing pressure differential, said apparatus comprising:

a non-Newtonian fluid source elevated above a horizontal reference position;

a first riser tube having a first end exposed to atmospheric pressure and a second end, said second end being in fluid communication with the fluid source for generating a first fluid column in said first riser tube;

a capillary tube having a first capillary tube end and a second capillary tube end, said first capillary tube end being in fluid communication with the non-Newtonian fluid source, said capillary tube having capillary tube

dimensions;

a second riser tube having one end coupled to said second capillary tube end and another end being exposed to atmospheric pressure for generating a second fluid column in said second riser tube, said second riser tube being positioned at an angle greater than zero degrees with respect to said horizontal reference position, said first and second riser tubes comprising a riser tube dimension;

a respective sensor for detecting the movement of the non-Newtonian fluid, caused by said decreasing pressure differential when said second end of said first riser tube and said first capillary tube end are placed into fluid communication with each other, said movement of fluid from said first riser tube, through said capillary tube and into said second riser tube at plural shear rates forming a laminar flow, said sensors generating data relating to the movement of the non-Newtonian fluid over time; and

a computer, coupled to said sensors, for calculating the viscosity of the non-Newtonian fluid based on said data relating to the movement of the non-Newtonian fluid over time, said capillary tube dimensions and said riser tube dimension.

131. The apparatus of Claim 130 wherein one of said respective sensors monitors the laminar movement of the fluid over time in its respective riser tube and wherein the second one of said respective sensors detects a single data point of the laminar movement in its respective riser tube.

132. The apparatus of Claim 130 wherein said riser tube is positioned vertically with

respect to said horizontal reference position.

133. The apparatus of Claim 130 wherein said non-Newtonian fluid is the circulating blood of a living being and the non-Newtonian fluid source is the vascular system of the living being.

134. The apparatus of Claim 132 wherein said movement of the fluid through said riser tubes comprises:

a rising fluid column in said second riser tube and wherein its corresponding sensor monitors the changing height of said rising fluid column over time, said height being defined as the distance between the top of said rising fluid column and said horizontal reference position;

a falling fluid column in said first riser tube and wherein its corresponding sensor detects a single data point of said falling fluid column; and

said monitored changing height of said rising fluid column and said single data point of said falling fluid column forming said fluid movement data.